

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2001-048511
(43)Date of publication of application : 20.02.2001

(51)Int.Cl.

C01B 31/02
B01J 19/00
C25D 13/10
H01B 1/04
H01J 1/304
H01J 9/02
H01J 31/12

(21)Application number : 11-220489
(22)Date of filing : 03.08.1999

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(54) PRODUCTION OF CARBON NANOTUBE THIN FILM, ELECTRON EMISSION ELEMENT AND DISPLAY DEVICE USING THE SAME CARBON NANOTUBE THIN FILM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide both a method for producing a carbon nanotube(CNT) thin film capable of preparing a high-purity CNT thin film excellent in productivity based on consideration of environmental resistance without containing impurities such as a surfactant at a low cost in order to provide a device effectively utilizing physical properties expected in the CNT and a display device such as a field emission type electron emission element at an enhanced electron emission efficiency, a fluorescent display tube using the field emission type electron emission element or a field emission display by using the CNT thin film prepared by the method for producing the CNT thin film.

SOLUTION: This method for producing a CNT thin film comprises micellizing CNT particles with an electrochemically oxidizable and/or reducible surfactant, dispersing or solubilizing the CNT particles in an aqueous medium, electrochemically oxidizing and/or reducing the surfactant, decomposing the resultant micelles and forming the CNT dispersed particles in the micelles into a thin film. The electron emission element and display device use the CNT thin film.

LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]